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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/605,858  | 10/31/2003  | Dong-Sil NMN Park    | 132855              | 2857             |
| 30952   | 7590        | 02/02/2006           | EXAMINER            |                  |
| HARTMAN AND HARTMAN, P.C.<br>552 EAST 700 NORTH<br>VAIPARAISO, IN 46383 |             |                      | JOLLEY, KIRSTEN     |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1762                |                  |

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/605,858

Applicant(s)

PARK ET AL.

Examiner

Kirsten C. Jolley

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-26 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-26 and 28-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed November 16, 2005 have been fully considered but they are not persuasive.

With respect to the rejections over Galmiche, Applicant argues that Galmiche does not expressly state that any of the ammonium chloride used to form the mixture is ever dissolved, and the Examiner does not specify which of Galmiche's ingredients is the proposed solvent for the ammonium chloride. Applicant states that while Galmiche discloses that isopropyl alcohol and oleic acid are present in the mixture, the Examiner has not established that either of these solvents is capable of dissolving ammonium chloride to the extent that the dissolved ammonium chloride is capable of serving as a binder for Galmiche's mixture. The Examiner notes that isopropyl alcohol is the solvent in Example I, and oleic acid is the surface active agent which confers thixotropic properties on the mixture (See also col. 3, lines 35-45, which state that the solvent is a hydrocarbon or alcohol, and the surface active agent is an acid such as oleic acid). As to whether isopropyl alcohol dissolves ammonium chloride, the Examiner cites the definition for "ammonium chloride" from Hawley's Condensed Chemical Dictionary, 14<sup>th</sup> Edition, which states that ammonium chloride is slightly soluble in alcohol. Therefore it is the Examiner's position that at least some ammonium chloride is dissolved in the isopropyl alcohol solvent. Since isopropyl alcohol is the only liquid other than oleic acid, the dissolved activator must solely cohere the donor material and filler. Oleic acid, for reasons discussed below, would not cohere the donor material and filler.

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Applicant argues that the only ingredient to Galmiche's cement that is a liquid and therefore remotely capable of serving as a binder is the dissolved surface active agent. The Examiner disagrees. The isopropyl alcohol solvent, and the ammonium chloride activator dissolved therein, is also a liquid capable of cohering the solid ingredients.

Applicant also argues that the mere fact that Galmiche's "surface active agent is responsible for conferring thixotropic properties on the mixture" does not prevent it from also having countless other properties and functions, including adhesive properties that enable it to serve at least in part as a binder. The Examiner disagrees. The Examiner has cited the definitions of "surface-active agent" and "surfactant" from Hawley's Condensed Chemical Dictionary, 14<sup>th</sup> Edition and "Wikipedia" on-line encyclopedia, respectively. It is noted that the former references states that surface active agents reduce surface tension between a liquid and a solid; this property is what confers the thixotropic properties of the mixture. The latter reference states that a surface active agent allows easier spreading of a liquid. Therefore, the surface active agent, such as oleic acid, responsible for conferring thixotropic properties in Galmiche's invention has a property *opposite* of acting as an adhesive or binder as argued by Applicant -- a property of reducing surface tension and causing spreading.

As to Applicant's argument that claim 13 requires that the adhesive mixture is applied to a surface and then dried on that same surface, it is first noted that claim 13 does not require that the mixture is applied *only* to the at least one surface. Further, Galmiche teaches applying its thixotropic mixture to the interior of an orifice, and it is selectively this surface to which chromaluminization is desired.

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Finally, Applicant argues that the Examiner has not established that one skilled in the art would find it obvious to use water instead of Galmiche's alcohol to dissolve Galmiche's surface active agents since the three examples of which are not soluble in water. This argument is not convincing since Galmiche's list of surface active agents is merely exemplary and not limiting.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 9, 11-12, 21-25, 28, 30-31, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Galmiche et al. (US 3,900,613).

The claims remain rejected for the reasons set forth in the prior Office action, as well as for the reasons discussed above in section 1. As to new claims 31 and 33, it is noted that the mixture of Galmiche is selectively applied and adhered to the orifice in which chromaluminization is desired, not to the remainder of the ramp in Example I. The heating step in Galmiche causes the diffusion coating to form only on the surface to which it was selectively applied.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-7, 10, 13-20, 26, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galmiche et al.

The claims remain rejected for the reasons set forth in the prior Office action, as well as for the reasons discussed above in section 1. As to new claim 32, it is noted that the mixture of Galmiche is selectively applied and adhered to the orifice in which chromaluminization is desired, not to the remainder of the ramp in Example I. The heating step in Galmiche causes the diffusion coating to form only on the surface to which it was selectively applied.

### ***Conclusion***

6. It is noted that an English translation of the prior cited reference JP 4-131365 A in the IDS of March 21, 2005 is enclosed. JP '365 discloses the use of a diffusion coating mixture comprising metallic powder, metal oxides buffer/filler, activator, and solvent. The mixture does not include the use of a binder, and is taught to be in the form of a slurry, as illustrated in Figure 1.

7. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

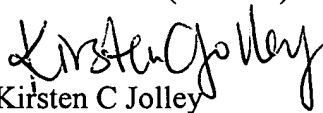
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kirsten C Jolley  
Primary Examiner  
Art Unit 1762

kcj